



Notes
by
Examiner
11/20/03

AF/2834
17 / SUPP. Reply
Brief

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Hawkins
11/19/03

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Application of :
Akihiro IINO et al. :
Serial No. 09/290,046 : Group Art Unit - 2834
Filed: April 12, 1999 : Examiner: Mark O. Budd
For: ULTRASONIC MOTOR AND :
ELECTRONIC APPARATUS :
EQUIPPED WITH ULTRASONIC :
MOTOR : Docket No. S004-3645
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MS APPEAL BRIEF-PATENTS
COMMISSIONER FOR PATENTS
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SUPPLEMENTAL REPLY BRIEF

S I R:

Pursuant to the Remand to the Examiner ("Remand")
issued by the Board of Appeals on July 31, 2003, appellants
present this supplemental brief in reply to the Examiner's
Supplemental Answer dated September 10, 2003.

In the Remand, the Board remanded the application to
the Examiner to address the following issues:

(A) Specifically point out where each of the
specific limitations recited in the rejected claims is found
in the prior art upon which the Examiner relies;

(B) Limit the rejection of claims 1-4, 22-32 and 48-51 to either Iino '138 or Iino '955; and

(C) Address the arguments presented in the reply brief directed to Kataoka and Salomon not disclosing detecting electrodes for detecting a drive signal having a drive frequency of the detecting electrodes.

The Examiner issued the Supplemental Answer addressing issues (A)-(C) set forth above. With respect to issue (A), the Examiner contends that polarized piezoelectric materials including detection and drive portions are explicitly disclosed by Salomon (col. 3, line 25 to col. 4, line 29 and col. 4, line 49 to col. 6, line 2), Kataoka (col. 3, lines (12-68), Shirasaki (col. 3, lines 15-38), and Ohtsuchi (col. 1, lines 56-68). With respect to issue (B), the Examiner withdrew the rejection based on Iino '138 and retained the rejection based on Iino '955. With respect to issue (C), the Examiner contends that Salomon (co. 1, lines 35-38), Iino '955 (col. 1, lines 29-36), and Kataoka (col. 1, lines 63 to col. 2 line 21) disclose detecting electrodes for detecting a drive signal having a drive frequency of the detecting electrodes.

Appellants respectfully submit that the Examiner has failed to specifically address issue (A) in the manner required by the Board in the Remand. More specifically, in

the Supplemental Answer the Examiner generally alleges that polarized piezoelectric materials including detection and drive portions are explicitly disclosed by Salomon (col. 3, line 25 to col. 4, line 29 and col. 4, line 49 to col. 6, line 2), Kataoka (col. 3, lines (12-68), Shirasaki (col. 3, lines 15-38), and Ohtsuchi (col. 1, lines 56-68). However, the Examiner fails to identify the specific page, line number, drawing reference number, and quotation from Salomon, Kataoka, Ohtsuchi and Shirasaki corresponding to each of the limitations in the appealed claims, as required by the Board in the Remand. Stated otherwise, the Examiner's general identification of columns and line numbers in the cited references without pointing out the specific line number or drawing elements or quotations from the prior art corresponding to the limitations in the appealed claims is insufficient to show how all of the limitations in the claims correspond to the features in the prior art.

Nevertheless, appellants respectfully submit that the teachings in the columns and line numbers of Salomon, Kataoka, Ohtsuchi and Shirasaki identified by the Examiner in the Supplemental Answer do not disclose or suggest the specific limitations of the ultrasonic motor recited in the appealed claims. For example, the teachings of Salomon, Kataoka, Ohtsuchi and Shirasaki identified by the Examiner do not disclose or suggest a detecting polarized portion disposed

at a portion of a piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member, as required by independent claim 1 and, and additionally, that the detecting polarized portion is disposed at a position symmetrical about a loop of a flexion vibration wave, as required by independent claim 2. Likewise, the teachings of Salomon, Kataoka, Ohtsuchi and Shirasaki identified by the Examiner do not disclose or suggest a detecting electrode disposed at a portion of a piezoelectric vibrating member for undergoing maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member, as required by independent claim 48. Furthermore, the teachings of Salomon, Kataoka, Ohtsuchi and Shirasaki identified by the Examiner do not disclose or suggest a detecting polarized portion disposed at a portion of the piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member and disposed at a position symmetrical about a loop of one of the first flexion vibration wave and the second flexion vibration wave, as required by independent claim 3.

With respect to independent claim 6, the teachings of Salomon, Kataoka, Ohtsuchi and Shirasaki identified by the Examiner do not disclose or suggest a detecting polarized

portion disposed at a portion of a piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member and disposed at a position symmetrical about one of a node of the stretching vibration wave and a loop of the flexion vibration wave. Likewise, the teachings of Salomon, Kataoka, Ohtsuchi and Shirasaki identified by the Examiner do not disclose or suggest an ultrasonic motor having a detecting electrode disposed at a portion of the piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member, as required by independent claims 11 and 12.

Moreover, appellants respectfully submit that the Examiner has also failed to specifically address issue (B) in the manner required by the Board in the Remand. More specifically, in response to appellants' argument in the reply brief directed to Kataoka and Salomon not disclosing detecting electrodes for detecting a drive signal having a drive frequency of the detecting electrodes, the Examiner generally contends in the Supplemental Answer that such structure and corresponding function are disclosed at col. 1, lines 35-38 of Salomon, at col. 1, lines 29-36 of Iino '955, and at col. 1, lines 63 to col. 2 line 21 of Kataoka. However, the Examiner again fails to identify the specific drawing elements and

quotations from Salomon, Kataoka, Ohtsuchi and Shirasaki corresponding to each of the limitations in the appealed claims, as required by the Board in the Remand.

Nevertheless, appellants respectfully submit that the teachings in the columns and line numbers of Salomon, Iino '955 and Kataoka identified by the Examiner in the Supplemental Answer do not disclose or suggest the specific features of the ultrasonic motor recited in the appealed claims. For example, the specific teachings of Salomon and Kataoka identified by the Examiner do not disclose or suggest drive circuits having a detecting polarized portion for detecting a drive signal having a drive frequency of the detecting polarized portion, as required by the appealed claims. While Kataoka and Salomon et al. disclose detecting electrodes disposed at an antinode of standing waves (Kataoka) and at an antinode of a travelling wave (Salomon et al.), the function of the detecting electrodes in these references is different from the function of the detecting polarized portion recited in independent claim 1. More specifically, in Kataoka, the detecting electrodes detect the amplitude of two standing waves and a time-phase difference between the two standing waves (see abstract). In Salomon et al., the detecting electrodes detect an amplitude and a time-phase difference between sensor voltage signals. The specific

teachings of Iino '955 identified by the Examiner in the Supplemental Answer also fail to disclose or suggest the foregoing structure and corresponding function recited in the appealed claims.

In light of the arguments and showing made herein and the arguments presented in the main brief and the reply brief, appellants respectfully submit that the obviousness rejections of claims 1-4, 6-14, 22-32 and 35-51 are in error and should not be sustained.

Respectfully submitted,

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MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: MS APPEAL BRIEF-PATENTS, COMMISSIONER FOR PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Debra Buonincontri

Name



Signature

October 23, 2003

Date